



# CITY OF SANTA BARBARA

## COUNCIL AGENDA REPORT

**AGENDA DATE:** June 24, 2008

**TO:** Mayor and Councilmembers

**FROM:** Water Resources Division, Public Works Department

**SUBJECT:** Supplemental Pilot Study And Preliminary Design Of Advanced Treatment Solutions For The Cater Water Treatment Plant

### RECOMMENDATION:

That Council authorize the Public Works Director to negotiate and execute a contract with Carollo Engineers (Carollo) in the not-to-exceed amount of \$601,798 for a supplemental pilot study and preliminary design of advanced treatment solutions for the Cater Water Treatment Plant (Cater), and authorize the Public Works Director to approve expenditures up to \$60,000 to cover cost increases that may result from unanticipated changes to the scope of work.

### DISCUSSION:

The City of Santa Barbara (City) owns and operates the Cater Water Treatment Plant (Cater), which provides drinking water to Santa Barbara, Montecito, and Carpinteria. As part of the treatment process, chlorine is added to the water to kill bacteria and other disease causing agents. Chlorine also binds with naturally occurring organic material in the water, forming compounds known as disinfection by-products (DBPs). The United States Environmental Protection Agency (EPA) suspects DBPs may cause cancer in humans, if consumed in high doses over a lifetime. As a result, the EPA has issued the DBP Rule, which restricts the allowable concentration of DBPs, specifically trihalomethanes and haloacetic acids, in drinking water.

The EPA is implementing the DBP Rule in two stages. The Stage 1 DBP Rule became effective in 2002. For compliance, the City made changes to its water distribution system, including construction of the Sheffield Water Quality Project. The Stage 2 DBP Rule will be effective in July 2010. To comply with this upcoming rule, the City will have to alter the water treatment processes at Cater.

On September 25, 2007, Council received a presentation on the findings of an exhaustive pilot study conducted by Carollo that investigated several advanced water treatment technologies to determine the best solution for Cater to comply with the upcoming Stage 2 DBP Rule. The pilot study specifically investigated options for reducing trihalomethanes and haloacetic acids in drinking water. The study also evaluated the ability of these technologies to improve the taste and odor of Cater's treated water.

The results of the study showed that ozonation and chloramination are two treatment technologies that would enable Cater to comply with the Stage 2 DBP Rule. Both technologies would require significant capital improvements at Cater, and each would have varying impacts on individual water systems. Water Resources staff, along with representatives from Montecito and Carpinteria Valley Water Districts for which Cater provides drinking water, unanimously support ozonation as the advanced treatment solution for addressing the upcoming Stage 2 DBP Rule.

Since making the determination that ozonation is the superior advanced treatment solution at Cater for addressing the upcoming Stage 2 DPB Rule, the South Coast is beginning to be impacted by the effects of the 2007 Zaca Fire in terms of compromised water quality and decreased water storage capacity in the watershed. With the degraded water quality, additional water treatment additives (such as powdered activated carbon or coagulants) will likely be needed in addition to ozonation for Cater to consistently meet the upcoming Stage 2 DBP Rule. The proposed supplemental pilot study will evaluate the optimal additives or combination of additives. Upon completion of the pilot study and preliminary design of the ozonation facility, staff will return to Council for authorization of a design contract with Carollo for the ozonation facility that will incorporate the findings of the pilot study.

#### Contractor Information:

Carollo has been working on the City's water quality issues since 1996, and has been on the three-year approved contract services list since the list's inception. Through a competitive Request For Proposal process, Carollo was selected to develop the Cater Strategic Plan, a five-phase plan developed in 2000, which charts the route for continued compliance with existing and pending drinking water rules and regulations. Design and construction of advance treatment technologies for compliance with the Stage 2 DBP Rule are elements of the Cater Strategic Plan. Staff recommends that Council authorize the Public Works Director to execute a contract with Carollo for above-described work in the amount of \$601,798, with approved extra services expenditures up to \$60,000 that may result from necessary changes in the scope of work.

#### **BUDGET/FINANCIAL INFORMATION:**

There are adequate funds in the Water Fund for the proposed supplemental pilot study and preliminary design of the ozonation facility. Staff will seek debt funding to pay for construction of the project. The Montecito and Carpinteria Valley Water Districts, under a joint powers agreement, will provide 39% of the funding for this work. These entities have received presentations from the City on this project, and their respective Boards of Directors have concurred with the selection of ozone as the treatment technology.

At its regular meeting of June 9, 2008, the Board of Water Commissioners voted to concur with staff's recommendation as contained in this Council Agenda Report.

**PREPARED BY:** Catherine Taylor, Water System Manager/mh  
**SUBMITTED BY:** Christine F. Andersen, Public Works Director  
**APPROVED BY:** City Administrator's Office